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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/500,387	02/08/2000	Ted Chongpi Lee		2538

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MOSER, PATTERSON & SHERIDAN L.L.P.
595 SHREWSBURY AVE, STE 100
FIRST FLOOR
SHREWSBURY, NJ 07702

EXAMINER

VOLPER, THOMAS E

ART UNIT	PAPER NUMBER
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2665

DATE MAILED: 03/24/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/500,387

Applicant(s)

LEE, TED CHONGPI

Examiner

Thomas Volper

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 7 January 2004 have been fully considered but they are not persuasive.
2. In response to Applicant's argument with respect to claims 1, 6 and 11 that the Norman reference fails to teach or suggest at least one of the plurality of DCS elements including a ADM that is logically coupled to a SONET network (page 3 of Remarks), the Examiner respectfully disagrees. Norman discloses "particular ring terminals on different rings will be connected to allow transmission from ring to ring. This connection is preferably a DCS connection..." (col. 6, lines 29-31). Norman also goes on to describe a DCS connection as being "comprised of a DCS device or devices..." (col. 6, lines 49-50). Thus, Norman provides for a hybrid structure of a ring terminal, which "are comprised of SONET add/drop muxes (ADM's)" (col. 4, lines 53-55), and a DCS connection comprising a DCS device. This hybrid structure that forms the connection between two rings is clearly representative of a DCS element, as in the present invention, that includes an ADM that is coupled to a SONET network.

The Examiner also disagrees with Applicant's argument that the combined references do not teach or suggest a DCS EMS for managing the DCS elements (page 4 of Remarks).

However, Norman discloses that it is well known to provide switching control for a DCS system by using a Digital Cross-connect Management System (DCMS) (col. 4, lines 26-38; see also Figure 2). This system provides control for the switching functions between rings.

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Applicant also argues that Lee “fails to bridge the substantial gap” between the Norman disclosure and the present invention (page 4 Remarks). Applicant states “the Lee reference merely discloses that an element management system (EMS) servers to monitor the route alarm and propagational alarms...” and argues that “alarm routing is simply not managing”. The Examiner respectfully disagrees. It is hard to imagine an apparatus called an element *management* system that does not perform a management function of some sort. As is well known in the art, one of the primary management functions that needs to be provided to elements on a SONET ring is the monitoring of alarms that signal breaks in a ring so that traffic can be rerouted during a protection system operation. It is obvious to combine the inventions of Norman and Lee in order to provide this alarm routing function with regard to the SONET ring elements in addition to the inter-ring switching function provided by the DCMS of Norman. Additionally, it would be obvious to manage even those ADMs combined in the DCS element hybrid structures described above with the EMS of Lee because those ADMs still form part of their local ring and would need to be engaged in any alarm routing function.

The combination of Norman, Jr. in view of Lee clearly meets all of the limitations of claims 1, 6 and 11.

3. The Examiner makes note that Applicant has mistakenly referred to independent claims 4 and 8 as being dependent from independent claims 1 and 6 (page 5 of Remarks). Thus, Applicant has remained silent with respect to the 35 U.S.C. 103(a) rejection of independent claims 4 and 8.

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4. In response to Applicant's arguments with respect to claims 13 and 17, the Examiner respectfully disagrees. Applicant once again argues that Norman fails to disclose a hybrid DCS/SONET network structure or managing the hybrid ring networks as network ring structures using a SONET/EMS (page 6 of Remarks). The Examiner relies on the same reasoning as described above with respect to claim 1 to provide evidence that Norman does in fact disclose a hybrid DCS/SONET network structure. To provide the functionality of a SONET/EMS the Examiner has relied on the ring management system (59) of Huang. The reason for combining is to provide a per-ring management function in addition to the inter-ring switching management function provided by the DCMS of Norman. Applicant also argues that Huang "fails to bridge a substantial gap" between Norman and the present invention by not teaching a hybrid DSC/SONET network structure. However, as mentioned above, the Examiner has relied upon the Norman reference for this feature.

5. In response to Applicant's arguments to claims 14-16, the Examiner makes note that Applicant has mistakenly referred to claim 14 as an independent claim. Applicant's first two paragraphs of arguments with respect to claims 14-16 (pages 8-9 of Remarks) are essentially the same as those arguments applied against the rejections of claims 13 and 17, and are addressed in the previous paragraph. Applicant also argues that the Jakobik reference "fails to bridge a substantial gap" between Norman and Huang, with which the Examiner respectfully disagrees. As mentioned in the previous paragraph, there is proper reasoning for combining the Norman and Huang references, thus there is no "substantial gap".

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Norman, Jr. (US 5,742,605) in view of Lee (US 6,594,236).

Regarding claims 1, 4, 6, 8, 9, 11, Norman discloses a SONET ring network including a plurality of ADMs (col. 4, lines 50-55; also see Figure 3). Norman also discloses a plurality of DCS elements wherein at least one of the plurality of DCS elements include an ADM that is logically coupled to a SONET network, said ADM being coupled to said at least one DCS by a digital link (col. 6, lines 28-65; also see Figure 5). Node (23) in Figure 5 demonstrates an input/output module of a hybrid DCS that includes at least one ADM. In addition, Norman discloses that it is well known to provide switching control for a Digital Cross-connect System (DCS) based architecture by a Digital Cross-connect Management System (DCMS) (col. 4, lines 26-38). This DCMS represents the DCS EMS of the present invention. Norman fails to disclose that the SONET ADM network elements are managed by a SONET EMS. Lee discloses an EMS that manages ADMs in an optical network (col. 1, lines 25-61). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the EMS of Lee to manage the ADMs in the invention of Norman. One of ordinary skill in the art would have been motivated to do this in order to provide prompt implementation of maintenance and management of optical lines upon recognition of alarm signals.

Regarding claim 2, Norman discloses that the DCMS is connected to the DCS elements via signaling links (81). These signaling links represent a data communication network. Lee discloses that the EMS is connected to the network elements through a LAN (col. 1, lines 38-43). The LAN represents a data communication network.

Regarding claims 3, 5, 7, 10, 12, Norman discloses that broadband DCS element (310) is connected to ring terminals (102, 105 and 108) by standard fiber connections (col. 6, lines 59-65). DCS element (310) includes interface (312), which breaks down each OC-12 connection entering the element into component STS-N signals (col. 7, lines 4-10; also see Figure 6).

8. Claims 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Norman, Jr. (US 5,742,605) in view of Huang et al. (US 6,389,015).

Regarding claims 13 and 17, Norman discloses a SONET ring network including a plurality of ADMs (col. 4, lines 50-55; also see Figure 3). Norman also discloses a plurality of DCS elements wherein at least one of the plurality of DCS elements include an ADM that is logically coupled to a SONET network, said ADM being coupled to said at least one DCS by a digital link (col. 6, lines 28-65; also see Figure 5). In addition, Norman discloses that it is well known to provide switching control for a Digital Cross-connect System (DCS) based architecture by a Digital Cross-connect Management System (DCMS) (col. 4, lines 26-38). The ADM coupled to the DCS represents a hybrid network structure and Figure 3 represents the DCS/SONET network of the present invention. Norman fails to disclose that ADMs used to form hybrid ring networks are decoupled from the DCS/SONET network and are managed by a SONET EMS. Huang discloses a similar DCS/SONET network to Norman in Figure 1. Huang

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also provides a ring management system (59) that manages those elements on ring (57) (col. 4, lines 13-27; also see Figure 2). Ring management system (59) represents the SONET EMS of the present invention. This system provides for the decoupling of ADMs from the DCS/SONET network because each element on the ring (57) is being managed per that ring. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include the ring management system in the invention of Norman to provide ring-based management in addition to DCS/SONET management with a DCMS. One of ordinary skill in the art would have been motivated to provide management per ring in order to optimally balance each link of a ring.

9. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Norman, Jr. (US 5,742,605) in view of Huang et al. (US 6,389,015) as applied to claims 13 and 17 above, and further in view of Jakobik et al. (US 6,195,367).

Regarding claim 14, the system provide by the teaching of Norman, Jr. in view of Huang et al. provides all of the limitations of claim 14, except for inserting an additional ADM between a hybrid DCS/SONET structure and a hybrid ring. Jakobik discloses SONET nodes (2 and 3) between a DCS and a plurality of SONET rings in a DCS/SONET network (see Figure 4). In addition, Huang provides the variation of adding additional SONET nodes (37 and 38) between a DCS and a plurality of SONET rings (col. 11, lines 8-28). These SONET nodes (2, 3, 37 and 38) represent the ADMs of the present invention. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to add ADMs between the DCS and a hybrid ring in the system provided by the teaching of Norman, Jr. in view of Huang et al. One of

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ordinary skill in the art would have been motivated to do this in order to provide for more rings to be incorporated into the DCS/SONET network, thus increasing capacity.

Regarding claim 15, see paragraph above regarding claims 13 and 17.

Regarding claim 16, Norman discloses that broadband DCS element (310) is connected to ring terminals (102, 105 and 108) by standard fiber connections (col. 6, lines 59-65). DCS element (310) includes interface (312), which breaks down each OC-12 connection entering the element into component STS-N signals (col. 7, lines 4-10; also see Figure 6).

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication, or earlier communications from the examiner should be directed to Thomas Volper whose telephone number is 703-305-8405 and

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fax number is 703-746-9467. The examiner can normally be reached between 8:30am and 6:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached at 703-308-6602. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Thomas E. Volper



March 19, 2004



HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600